

## SEQUENCE LISTING

<110> Ian M. Whitehead  
 Alan Slusarenko  
 Duncan Gaskin  
 Alan Brash  
 Nathalie Tijet

<120> GUAVA (PSIDIUM GUAJAVA) 13-HYDROPEROXIDE  
 LYASE AND USES THEREOF

<130> 06027.0001U3

<140> 09/578,533

<141> 2000-05-24

<160> 27

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 1

Thr Tyr Pro Pro Ser Leu Ser

1

5

<210> 2

<211> 476

<212> PRT

<213> Psidium Guajava (guava)

<400> 2

20060707 16:04:00

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 Pro Thr Thr Leu Pro Val Arg Thr Ile Pro Gly Ser Tyr Gly Trp Pro  
 20 25 30  
 Leu Leu Gly Pro Ile Ser Asp Arg Leu Asp Tyr Phe Trp Phe Gln Gly  
 35 40 45  
 Pro Glu Thr Phe Phe Arg Lys Arg Ile Glu Lys Tyr Lys Ser Thr Val  
 50 55 60  
 Phe Arg Ala Asn Val Pro Pro Cys Phe Pro Phe Phe Ser Asn Val Asn  
 65 70 75 80  
 Pro Asn Val Val Val Val Leu Asp Cys Glu Ser Phe Ala His Leu Phe  
 85 90 95  
 Asp Met Glu Ile Val Glu Lys Ser Asn Val Leu Val Gly Asp Phe Met  
 100 105 110  
 Pro Ser Val Lys Tyr Thr Gly Asn Ile Arg Val Cys Ala Tyr Leu Asp  
 115 120 125  
 Thr Ser Glu Pro Gln His Ala Gln Val Lys Asn Phe Ala Met Asp Ile  
 130 135 140  
 Leu Lys Arg Ser Ser Lys Val Trp Glu Ser Glu Val Ile Ser Asn Leu  
 145 150 155 160  
 Asp Thr Met Trp Asp Thr Ile Glu Ser Ser Leu Ala Lys Asp Gly Asn  
 165 170 175  
 Ala Ser Val Ile Phe Pro Leu Gln Lys Phe Leu Phe Asn Phe Leu Ser  
 180 185 190  
 Lys Ser Ile Ile Gly Ala Asp Pro Ala Ala Ser Pro Gln Val Ala Lys  
 195 200 205  
 Ser Gly Tyr Ala Met Leu Asp Arg Trp Leu Ala Leu Gln Leu Leu Pro  
 210 215 220  
 Thr Ile Asn Ile Gly Val Leu Gln Pro Leu Val Glu Ile Phe Leu His  
 225 230 235 240  
 Ser Trp Ala Tyr Pro Phe Ala Leu Val Ser Gly Asp Tyr Asn Lys Leu  
 245 250 255  
 Tyr Gln Phe Ile Glu Lys Glu Gly Arg Glu Ala Val Glu Arg Ala Lys  
 260 265 270  
 Ala Glu Phe Gly Leu Thr His Gln Glu Ala Ile His Asn Leu Leu Phe  
 275 280 285  
 Ile Leu Gly Phe Asn Ala Phe Gly Gly Phe Ser Ile Phe Leu Pro Thr  
 290 295 300

104991 01000  
 206070 1662400

Leu Leu Ser Asn Ile Leu Ser Asp Thr Thr Gly Leu Gln Asp Arg Leu  
 305 310 315 320  
 Arg Lys Glu Val Arg Ala Lys Gly Gly Pro Ala Leu Ser Phe Ala Ser  
 325 330 335  
 Val Lys Glu Met Glu Leu Val Lys Ser Val Val Tyr Glu Thr Leu Arg  
 340 345 350  
 Leu Asn Pro Pro Val Pro Phe Gln Tyr Ala Arg Ala Arg Lys Asp Phe  
 355 360 365  
 Gln Leu Lys Ser His Asp Ser Val Phe Asp Val Lys Lys Gly Glu Leu  
 370 375 380  
 Leu Cys Gly Tyr Gln Lys Val Val Met Thr Asp Pro Lys Val Phe Asp  
 385 390 395 400  
 Glu Pro Glu Ser Phe Asn Ser Asp Arg Phe Val Gln Asn Ser Glu Leu  
 405 410 415  
 Leu Asp Tyr Leu Tyr Trp Ser Asn Gly Pro Gln Thr Gly Thr Pro Thr  
 420 425 430  
 Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val Thr Leu Thr Ala  
 435 440 445  
 Cys Leu Phe Val Ala Tyr Met Phe Arg Arg Tyr Asn Ser Val Thr Gly  
 450 455 460  
 Ser Ser Ser Ser Ile Thr Ala Val Glu Lys Ala Asn  
 465 470 475

<210> 3

<211> 480

<212> PRT

<213> Psidium Guajava (guava)

<400> 3

Met Ser Pro Ala Met Ser Ser Thr Tyr Pro Pro Ser Leu Ser Pro Pro  
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 Ser Ser Pro Arg Pro Thr Thr Leu Pro Val Arg Thr Ile Pro Gly Ser  
 20 25 30  
 Tyr Gly Trp Pro Leu Leu Gly Pro Ile Ser Asp Arg Leu Asp Tyr Phe  
 35 40 45  
 Trp Phe Gln Gly Pro Glu Thr Phe Phe Arg Lys Arg Ile Glu Lys Tyr  
 50 55 60  
 Lys Ser Thr Val Phe Arg Ala Asn Val Pro Pro Cys Phe Pro Phe Phe  
 65 70 75 80

206070" T662400T

Ser Asn Val Asn Pro Asn Val Val Val Val Leu Asp Cys Glu Ser Phe  
 85 90 95  
 Ala His Leu Phe Asp Met Glu Ile Val Glu Lys Ser Asn Val Leu Val  
 100 105 110  
 Gly Asp Phe Met Pro Ser Val Lys Tyr Thr Gly Asn Ile Arg Val Cys  
 115 120 125  
 Ala Tyr Leu Asp Thr Ser Glu Pro Gln His Ala Gln Val Lys Asn Phe  
 130 135 140  
 Ala Met Asp Ile Leu Lys Arg Ser Ser Lys Val Trp Glu Ser Glu Val  
 145 150 155 160  
 Ile Ser Asn Leu Asp Thr Met Trp Asp Thr Ile Glu Ser Ser Leu Ala  
 165 170 175  
 Lys Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln Lys Phe Leu Phe  
 180 185 190  
 Asn Phe Leu Ser Lys Ser Ile Ile Gly Ala Asp Pro Ala Ala Ser Pro  
 195 200 205  
 Gln Val Ala Lys Ser Gly Tyr Ala Met Leu Asp Arg Trp Leu Ala Leu  
 210 215 220  
 Gln Leu Leu Pro Thr Ile Asn Ile Gly Val Leu Gln Pro Leu Val Glu  
 225 230 235 240  
 Ile Phe Leu His Ser Trp Ala Tyr Pro Phe Ala Leu Val Ser Gly Asp  
 245 250 255  
 Tyr Asn Lys Leu Tyr Gln Phe Ile Glu Lys Glu Gly Arg Glu Ala Val  
 260 265 270  
 Glu Arg Ala Lys Ala Glu Phe Gly Leu Thr His Gln Glu Ala Ile His  
 275 280 285  
 Asn Leu Leu Phe Ile Leu Gly Phe Asn Ala Phe Gly Gly Phe Ser Ile  
 290 295 300  
 Phe Leu Pro Thr Leu Leu Ser Asn Ile Leu Ser Asp Thr Thr Gly Leu  
 305 310 315 320  
 Gln Asp Arg Leu Arg Lys Glu Val Arg Ala Lys Gly Gly Pro Ala Leu  
 325 330 335  
 Ser Phe Ala Ser Val Lys Glu Met Glu Leu Val Lys Ser Val Val Tyr  
 340 345 350  
 Glu Thr Leu Arg Leu Asn Pro Pro Val Pro Phe Gln Tyr Ala Arg Ala  
 355 360 365  
 Arg Lys Asp Phe Gln Leu Lys Ser His Asp Ser Val Phe Asp Val Lys  
 370 375 380

206070" T662400T

Lys Gly Glu Leu Leu Cys Gly Tyr Gln Lys Val Val Met Thr Asp Pro  
 385                      390                      395                      400  
 Lys Val Phe Asp Glu Pro Glu Ser Phe Asn Ser Asp Arg Phe Val Gln  
                     405                      410                      415  
 Asn Ser Glu Leu Leu Asp Tyr Leu Tyr Trp Ser Asn Gly Pro Gln Thr  
                     420                      425                      430  
 Gly Thr Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val  
                     435                      440                      445  
 Thr Leu Thr Ala Cys Leu Phe Val Ala Tyr Met Phe Arg Arg Tyr Asn  
                     450                      455                      460  
 Ser Val Thr Gly Ser Ser Ser Ser Ile Thr Ala Val Glu Lys Ala Asn  
 465                      470                      475                      480

<210> 4

<211> 483

<212> PRT

<213> Psidium Guajava (guava)

<400> 4

Met Ser Asn Met Ser Pro Ala Met Ser Ser Thr Tyr Pro Pro Ser Leu  
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 Ser Pro Pro Ser Ser Pro Arg Pro Thr Thr Leu Pro Val Arg Thr Ile  
                     20                      25                      30  
 Pro Gly Ser Tyr Gly Trp Pro Leu Leu Gly Pro Ile Ser Asp Arg Leu  
                     35                      40                      45  
 Asp Tyr Phe Trp Phe Gln Gly Pro Glu Thr Phe Phe Arg Lys Arg Ile  
                     50                      55                      60  
 Glu Lys Tyr Lys Ser Thr Val Phe Arg Ala Asn Val Pro Pro Cys Phe  
 65                      70                      75                      80  
 Pro Phe Phe Ser Asn Val Asn Pro Asn Val Val Val Val Leu Asp Cys  
                     85                      90                      95  
 Glu Ser Phe Ala His Leu Phe Asp Met Glu Ile Val Glu Lys Ser Asn  
                     100                      105                      110  
 Val Leu Val Gly Asp Phe Met Pro Ser Val Lys Tyr Thr Gly Asn Ile  
                     115                      120                      125  
 Arg Val Cys Ala Tyr Leu Asp Thr Ser Glu Pro Gln His Ala Gln Val  
                     130                      135                      140  
 Lys Asn Phe Ala Met Asp Ile Leu Lys Arg Ser Ser Lys Val Trp Glu  
 145                      150                      155                      160

206070" T662400F

Ser Glu Val Ile Ser Asn Leu Asp Thr Met Trp Asp Thr Ile Glu Ser  
 165 170 175  
 Ser Leu Ala Lys Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln Lys  
 180 185 190  
 Phe Leu Phe Asn Phe Leu Ser Lys Ser Ile Ile Gly Ala Asp Pro Ala  
 195 200 205  
 Ala Ser Pro Gln Val Ala Lys Ser Gly Tyr Ala Met Leu Asp Arg Trp  
 210 215 220  
 Leu Ala Leu Gln Leu Leu Pro Thr Ile Asn Ile Gly Val Leu Gln Pro  
 225 230 235 240  
 Leu Val Glu Ile Phe Leu His Ser Trp Ala Tyr Pro Phe Ala Leu Val  
 245 250 255  
 Ser Gly Asp Tyr Asn Lys Leu Tyr Gln Phe Ile Glu Lys Glu Gly Arg  
 260 265 270  
 Glu Ala Val Glu Arg Ala Lys Ala Glu Phe Gly Leu Thr His Gln Glu  
 275 280 285  
 Ala Ile His Asn Leu Leu Phe Ile Leu Gly Phe Asn Ala Phe Gly Gly  
 290 295 300  
 Phe Ser Ile Phe Leu Pro Thr Leu Leu Ser Asn Ile Leu Ser Asp Thr  
 305 310 315 320  
 Thr Gly Leu Gln Asp Arg Leu Arg Lys Glu Val Arg Ala Lys Gly Gly  
 325 330 335  
 Pro Ala Leu Ser Phe Ala Ser Val Lys Glu Met Glu Leu Val Lys Ser  
 340 345 350  
 Val Val Tyr Glu Thr Leu Arg Leu Asn Pro Pro Val Pro Phe Gln Tyr  
 355 360 365  
 Ala Arg Ala Arg Lys Asp Phe Gln Leu Lys Ser His Asp Ser Val Phe  
 370 375 380  
 Asp Val Lys Lys Gly Glu Leu Leu Cys Gly Tyr Gln Lys Val Val Met  
 385 390 395 400  
 Thr Asp Pro Lys Val Phe Asp Glu Pro Glu Ser Phe Asn Ser Asp Arg  
 405 410 415  
 Phe Val Gln Asn Ser Glu Leu Leu Asp Tyr Leu Tyr Trp Ser Asn Gly  
 420 425 430  
 Pro Gln Thr Gly Thr Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys  
 435 440 445  
 Asp Tyr Val Thr Leu Thr Ala Cys Leu Phe Val Ala Tyr Met Phe Arg  
 450 455 460

206070" T562400T

Arg Tyr Asn Ser Val Thr Gly Ser Ser Ser Ser Ile Thr Ala Val Glu  
 465 470 475 480  
 Lys Ala Asn

<210> 5  
 <211> 8  
 <212> PRT  
 <213> Psidium Guajava (guava)

<400> 5  
 Met Ala Arg Val Val Met Ser Asn  
 1 5

<210> 6  
 <211> 488  
 <212> PRT  
 <213> Psidium Guajava (guava)

<400> 6  
 Met Ala Arg Val Val Met Ser Asn Met Ser Pro Ala Met Ser Ser Thr  
 1 5 10 15  
 Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg Pro Thr Thr Leu  
 20 25 30  
 Pro Val Arg Thr Ile Pro Gly Ser Tyr Gly Trp Pro Leu Leu Gly Pro  
 35 40 45  
 Ile Ser Asp Arg Leu Asp Tyr Phe Trp Phe Gln Gly Pro Glu Thr Phe  
 50 55 60  
 Phe Arg Lys Arg Ile Glu Lys Tyr Lys Ser Thr Val Phe Arg Ala Asn  
 65 70 75 80  
 Val Pro Pro Cys Phe Pro Phe Phe Ser Asn Val Asn Pro Asn Val Val  
 85 90 95  
 Val Val Leu Asp Cys Glu Ser Phe Ala His Leu Phe Asp Met Glu Ile  
 100 105 110  
 Val Glu Lys Ser Asn Val Leu Val Gly Asp Phe Met Pro Ser Val Lys  
 115 120 125  
 Tyr Thr Gly Asn Ile Arg Val Cys Ala Tyr Leu Asp Thr Ser Glu Pro  
 130 135 140

206070" T662400T

Gln His Ala Gln Val Lys Asn Phe Ala Met Asp Ile Leu Lys Arg Ser  
 145 150 155 160  
 Ser Lys Val Trp Glu Ser Glu Val Ile Ser Asn Leu Asp Thr Met Trp  
 165 170 175  
 Asp Thr Ile Glu Ser Ser Leu Ala Lys Asp Gly Asn Ala Ser Val Ile  
 180 185 190  
 Phe Pro Leu Gln Lys Phe Leu Phe Asn Phe Leu Ser Lys Ser Ile Ile  
 195 200 205  
 Gly Ala Asp Pro Ala Ala Ser Pro Gln Val Ala Lys Ser Gly Tyr Ala  
 210 215 220  
 Met Leu Asp Arg Trp Leu Ala Leu Gln Leu Leu Pro Thr Ile Asn Ile  
 225 230 235 240  
 Gly Val Leu Gln Pro Leu Val Glu Ile Phe Leu His Ser Trp Ala Tyr  
 245 250 255  
 Pro Phe Ala Leu Val Ser Gly Asp Tyr Asn Lys Leu Tyr Gln Phe Ile  
 260 265 270  
 Glu Lys Glu Gly Arg Glu Ala Val Glu Arg Ala Lys Ala Glu Phe Gly  
 275 280 285  
 Leu Thr His Gln Glu Ala Ile His Asn Leu Leu Phe Ile Leu Gly Phe  
 290 295 300  
 Asn Ala Phe Gly Gly Phe Ser Ile Phe Leu Pro Thr Leu Leu Ser Asn  
 305 310 315 320  
 Ile Leu Ser Asp Thr Thr Gly Leu Gln Asp Arg Leu Arg Lys Glu Val  
 325 330 335  
 Arg Ala Lys Gly Gly Pro Ala Leu Ser Phe Ala Ser Val Lys Glu Met  
 340 345 350  
 Glu Leu Val Lys Ser Val Val Tyr Glu Thr Leu Arg Leu Asn Pro Pro  
 355 360 365  
 Val Pro Phe Gln Tyr Ala Arg Ala Arg Lys Asp Phe Gln Leu Lys Ser  
 370 375 380  
 His Asp Ser Val Phe Asp Val Lys Lys Gly Glu Leu Leu Cys Gly Tyr  
 385 390 395 400  
 Gln Lys Val Val Met Thr Asp Pro Lys Val Phe Asp Glu Pro Glu Ser  
 405 410 415  
 Phe Asn Ser Asp Arg Phe Val Gln Asn Ser Glu Leu Leu Asp Tyr Leu  
 420 425 430  
 Tyr Trp Ser Asn Gly Pro Gln Thr Gly Thr Pro Thr Glu Ser Asn Lys  
 435 440 445

20042991 010900E



Gln Cys Ala Ala Lys Asp Tyr Val Thr Leu Thr Ala Cys Leu Phe Val  
 450 455 460  
 Ala Tyr Met Phe Arg Arg Tyr Asn Ser Val Thr Gly Ser Ser Ser Ser  
 465 470 475 480  
 Ile Thr Ala Val Glu Lys Ala Asn  
 485

<210> 7

<211> 1431

<212> DNA

<213> Psidium Guajava (guava)

<400> 7

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ctggactact tctggttcca agggccggag acgttcttca ggaagaggat cgagaagtac	180
aagagcaccg tgttcgcgc gaacgtgcct ccgtgcttcc ccttcttctc gaacgtgaac	240
cctaacgtcg tggcgtcct cgattgcgag tccttcgctc acttggtcga catggagatc	300
gtggagaaga gcaacgtcct cgtcggcgac ttcattgccga gcgtgaagta caccgggaac	360
atccgggtct gcgcttacct cgacacttcc gagctcaac acgctcaggt gaagaacttt	420
gcgatggaca tactgaagag gagctccaaa gtgtgggaga gcgaagtgat ctcgaacttg	480
gacaccatgt gggacaccat cgagtccagc ctccgcaagg acggcaacgc cagcgtcatc	540
ttccctctcc aaaagtctct cttcaacttc ctctccaagt ccatcatcgg cgctgaccgc	600
gccgcctcgc cgcaggtggc caagtccggc tacgccatgc ttgaccggtg gctcgtctc	660
cagctcctcc ccaccatcaa cattggcgta ctgcagcctc tagtgagat tttctgcat	720
tcttgggcat acccttttgc gctggtgagc ggggactaca acaagctcta ccagttcatc	780
gagaaggaag gccgagaagc ggtcgaaagg gcgaaggccg agttcggatt gacacaccag	840
gaggccatcc acaacttgct gttcatcctc ggcttcaacg cgttcggcgg cttctcgatc	900
ttctcccca cgttgctgag caacatactt agcgacacaa ccggactgca ggaccggctg	960
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gaactcgtga agtcggtcgt gtacgagacg ctgcggctca acccgcccgt cccgttccaa	1080
tacgctcgag cccggaagga cttccagctc aagtccacg actctgtctt tgatgtcaag	1140
aaaggcgagc tgctatgcgg gtatcagaag gtggtgatga cagaccgaa agtggtcgac	1200
gaaccggaga gttcaactc ggaccggttc gtccaaaaca gcgagctact ggattacctg	1260
tactggtcca acgggcccga gaccggaacg ccgaccgagt cgaacaagca gtgcgaggct	1320
aaggactacg tcaccctcac cgcttgctc ttcgttgctt acatgtttcg acggtacaat	1380
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<210> 8

206070" T662400T

&lt;211&gt; 1443

&lt;212&gt; DNA

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 8

atgtcgccgg	ccatgtcgtc	cacctacccc	ccgtctctgt	ccccgccgtc	gtcgcccgcg	60
ccgaccaccc	tcccgggtgcg	gacgatcccc	ggcagctacg	ggaggccccct	cctcggccccg	120
atatcggacc	gcctggacta	cttctgggtc	caaggccccg	agacgttctt	caggaagagg	180
atcgagaagt	acaagagcac	cgtgttcgcg	gcgaacgtgc	ctccgtgctt	cccccttctt	240
tcgaacgtga	accctaacgt	cgtgggtcgtc	ctcgattgcg	agtccttcgc	tcacttggtc	300
gacatggaga	tcgtggagaa	gagcaacgtc	ctcgtcggcg	acttcatgcc	gagcgtgaag	360
tacaccggga	acatccgggt	ctgcgcttac	ctcgacactt	ccgagcctca	acacgctcag	420
gtgaagaact	ttgcgatgga	catactgaag	aggagctcca	aagtgtggga	gagcgaagtg	480
atctcgaact	tggacaccat	gtgggacacc	atcgagtcca	gcctcgccaa	ggacggcaac	540
gccagcgtca	tcttccctct	ccaaaagttc	ctcttcaact	tcctctccaa	gtccatcatc	600
ggcgtgacc	cggccgcctc	gccgcaggtg	gccaagtccg	gctacgccat	gcttgaccgg	660
tggctcgctc	tccagctcct	ccccaccatc	aacattggcg	tactgcagcc	tctagtggag	720
atttttctgc	attcttgggc	ataccctttt	gcgctgggtg	gcggggacta	caacaagctc	780
taccagttca	tcgagaagga	aggccgagaa	gcggctgaaa	gggcgaaggc	cgagttcgga	840
ttgacacacc	aggaggccat	ccacaacttg	ctgttcatcc	tcggcttcaa	cgcgttcggc	900
ggcttctcga	tcttccctccc	cacgttgctg	agcaacatac	ttagcgacac	aaccggactg	960
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ctggattacc	tgtactggtc	caacggggccg	cagaccggaa	cgccgaccga	gtcgaacaag	1320
cagtgcgcgg	ctaaggacta	cgtcaccctc	accgcttgct	tcttcggtgc	ctacatgttt	1380
cgacggtaca	attccgtcac	aggaagctcg	agctcgatca	cagccgttga	aaaggccaac	1440
tga						1443

&lt;210&gt; 9

&lt;211&gt; 1452

&lt;212&gt; DNA

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 9

atgagcaaca	tgctgccggc	catgtcgctc	acctaccccc	cgtctctgtc	cccgccgctcg	60
tcgcccgcggc	cgaccaccct	cccgggtgcg	acgatccccg	gcagctacgg	gtggcccttc	120

10042991.010902

ctcgccccga tatcggaccg cctggactac ttctggttcc aaggccccga gacgttcttc 180  
 aggaagagga tcgagaagta caagagcacc gtgttcgcg cgaacgtgcc tccgtgcttc 240  
 cccttcttct cgaacgtgaa ccctaacgtc gtggtcgtcc tcgattgcga gtccttcgct 300  
 cacttggttcg acatggagat cgtggagaag agcaacgtcc tcgtcggcga cttcatgccg 360  
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 cacgctcagg tgaagaactt tgcgatggac atactgaaga ggagctccaa agtgtgggag 480  
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 gacggcaacg ccagcgtcat cttccctctc caaaagttcc tcttcaactt cctctccaag 600  
 tccatcatcg gcgctgaccc ggccgcctcg ccgcaggtgg ccaagtccgg ctacgccatg 660  
 cttgaccggt ggctcgctct ccagctcctc cccaccatca acattggcgt actgcagcct 720  
 ctagtggaga tttttctgca ttcttgggca tacccttttg cgctggtgag cggggactac 780  
 aacaagctct accagttcat cgagaaggaa ggccgagaag cggtcgaaaag ggcgaaggcc 840  
 gagttcggat tgacacacca ggaggccatc cacaacttgc tgttcactct cggcttcaac 900  
 gcgttcggcg gcttctcgat cttcctcccc acgttgctga gcaacatact tagcgacaca 960  
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 tacatgtttc gacggtacaa ttccgtcaca ggaagctcga gctcgatcac agccgttgaa 1440  
 aaggccaact ga 1452

<210> 10

<211> 1467

<212> DNA

<213> Psidium Guajava (guava)

<400> 10

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 tacgggtggc cctcctcgg cccgatatcg gaccgcctgg actacttctg gttccaaggc 180  
 ccggagacgt tcttcaggaa gaggatcgag aagtacaaga gcaccgtgtt ccgcgcgaac 240  
 gtgcctccgt gcttcccctt cttctcgaac gtgaacccta acgtcgtggt cgtcctcgat 300  
 tgcgagtcct tcgctcactt gttcgacatg gagatcgtgg agaagagcaa cgtcctcgtc 360  
 ggcgacttca tgccgagcgt gaagtacacc gggaacatcc ggggtctgcgc ttacctcgac 420  
 acttccgagc ctcaacacgc tcaggtgaag aactttgcga tggacatact gaagaggagc 480  
 tccaaagtgt gggagagcga agtgcgtcgc aacttggaca ccatgtggga caccatcgag 540

tccagcctcg ccaaggacgg caacgccagc gtcattcttc ctctccaaaa gttcctcttc 600  
 aacttcctct ccaagtccat catcggcgct gacccggccg cctcgccgca ggtggccaag 660  
 tccggctacg ccatgcttga ccggtggctc gctctccagc tcctccccac catcaacatt 720  
 ggcgtactgc agcctctagt ggagattttt ctgcattctt gggcataccc ttttgcgctg 780  
 gtgagcgggg actacaacaa gctctaccag ttcattcgaga aggaaggccg agaagcggtc 840  
 gaaagggcga aggccgagtt cggattgaca caccaggagg ccatccacaa cttgctgttc 900  
 atcctcggct tcaacgcgtt cggcggttc tcgatcttcc tccccacgtt gctgagcaac 960  
 atacttagcg acacaaccgg actgcaggac cggctgagga aggaggtccg ggcaaaggga 1020  
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 gagacgtgc ggctcaacc ccccgctccg ttccaatacg ctcgagcccg gaaggacttc 1140  
 cagctcaagt cccacgactc tgtctttgat gtcaagaaag gcgagctgct atgcgggtat 1200  
 cagaaggtgg tgatgacaga cccgaaagtg ttcgacgaac cggagagctt caactcggac 1260  
 cggttcgtcc aaaacagcga gctactggat tacctgtact ggtccaacgg gccgcagacc 1320  
 ggaacgccga ccgagtcgaa caagcagtg cgcgctaagg actacgtcac cctcaccgct 1380  
 tgtctcttcg ttgcctacat gtttcgacgg tacaattccg tcacaggaag ctcgagctcg 1440  
 atcacagccg ttgaaaaggc caactga 1467

<210> 11

<211> 1443

<212> DNA

<213> Capsicum annum (green pepper)

<400> 11

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 cgtaaaattc cagggagcta cgggtttcca ttattagggc cactttggga tcgattagac 120  
 tataactggg tccaaaagct ccagatttcc ttcagcaaga gagtcgaaaa gtataacagc 180  
 acggtattca gaacgaatgt accgccttgt tttccatttt ttttgggtgt aaatccaaat 240  
 gtagtgggcg tactggatgt caagtcattt gcacatctat ttgatatgga gattgttgag 300  
 aaagctaattg tgcttggttg tgatttcatg cccagtgttg tttatactgg tgatatgcgt 360  
 gtttgtgctt atcttgatac ttctgaacct aaacatactc agattaagaa cttttcattg 420  
 gacatcctaa aaagaagttc aaagacatgg gtgcctacac tagttaaaga acttgataca 480  
 ctgttcggaa cttttgaatc agatctttca aaatccaaat cagcttctct tctccctgca 540  
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 tcaccggaga tagccaactc tggtctcgcc tatcttgatg catggctagc tattcaacta 660  
 gcacctactg ttagcattgg tgttcttcaa ccccttgaag aaatcttcgt ccactctttt 720  
 tcataccctt attttcttgg cgtggagggt tacgaaaaac tcattaagtt tgtgaaaagt 780  
 gaagctaagg aagtgttaac gagggcacia acagactttc agctaactga acaagaagcc 840  
 attcataacc ttttgttcat tcttgattc aatgcttttg gtggtttcac cttttcttg 900  
 ccaacccttc tgggaaacct tgggagacga gaaaaatgct gagatgcaag agaaactgag 960

aaaagaagtg agggaaaaag ttggacaaat caagaaaact tgagttttga gagtgtaaaa	1020
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agtcaatatg caagagcaag aaaagacttc atgctcagtt cacatgattc agtttacgaa	1140
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tttgatgaac ctgaaaagtt tatgttgagg aggtttacaa aggagaaagg gaaagaattg	1260
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caatgtgctg ctaaggatgc gggtactctt actgcttctt tgattgtggc ttacattttc	1380
caaaagtatg attctgtgag tttctcatct gggtcactca catctgtgaa aaaagcctgc	1440
tga	1443

&lt;210&gt; 12

&lt;211&gt; 1638

&lt;212&gt; DNA

&lt;213&gt; Musa sp. (banana)

&lt;400&gt; 12

aagaagaaga gagggaaggt acggatggct atgatgtggt cgtcagcctc cgccaccgcc	60
gtcaccacgc tgccgacgag gcccatccct ggaagctacg gcccgccgct ggtgggcccc	120
ctcaaggacc gcctcgacta cttctggttt cagggaccgg agaccttctt ccgcagccgg	180
atggccaccc acaagagcac cgtgttccgc accaacatgc cccccacctt ccccttcttc	240
gttgaggatcg acccccgctt ggtcaccgtc ctcgactgca catccttctc cgccctcttc	300
gacctcgagg tcgtggagaa gaagaacatt ctcacggggg actacatgcc cagcctcagc	360
ttcaccggcg acaccgcgt cgtcgtgtac ctcgaccctt ccgagccgga ccacgcccgc	420
gtgaagagct tctgcttgga actcctcagg cgcggcgcca agacctgggt ctctcgttc	480
ctctccaatc tcgatgtcat gctcgccacc atagagcagg ggatcgccaa ggatggctcc	540
gccggettat tcggcccgtt gcagaagtgc atcttcgcgt tcctctgcaa gagcatcatc	600
ggggccgacc cgtcgggtgc gcccgacgtg ggagaaaatg gcttcgtcat gctcgacaag	660
tggtttgcgc tgcagctcct cccgacggtg aaggctcggg ccatcccga acccctggag	720
gagatcctcc tccactcctt cccctccccc ttcttcctcg tgagccgga ttaccggaag	780
ctgtacgaat tcgtcgagaa gcaaggccaa gaggttgctc gccgagcgga aaccgagcac	840
gggctcagca agcacgacgc catcaacaac atcttggtcg tcctaggatt caacgccttc	900
ggcggcttct cggctcttct cccacgctc ctgaccacca tagggaggga caagacgggc	960
ctgcgggaga agctcaagga cgaggtgctg agggctcatga agagtagagg ggagaagcgg	1020
ccgagcttcg agacggtgct ggagatggag ctgggtgcgat cgacggtgta cgaggtcctg	1080
cggctgaacc cgccggtgcc gctgcagtac gggcgggctg gcaccgactt cacgctgaac	1140
tcccacgacg cggcggttcaa gggttgagaag ggggagttgc tgtgcgggta ccagccgctg	1200
gtgatgcggg atccagcggg gttcgacgac ccggagacgt tcgccccgga aagggtcatg	1260
ggcagcggga aggagctgct caagtacgtc ttctgggtcca acgggcccga gacgggtacg	1320
ccgacgccgg ccaacaagca gtgcgcgcgc aaggactacg tgggtggagac ggcgtgcctg	1380

ctgatggcgg agatcttcta ccgctacgac gagttcgtgt gcgccgacga cgccatctcc 1440  
 gtgacgaagc tggatagagc gagagaatgg gagtaaacgg tattcaagtc ggaagcgaca 1500  
 taaggagacg gccaaactcca ccgttgctaa ttcaagtcgt actccaaatc ggtattcata 1560  
 tcatcgttcc attgggggtga tgaagagata aataaaattt gacggtgcag gaggctacaa 1620  
 aaaaaaaaaa aaaaaaaaaa 1638

<210> 13

<211> 11

<212> PRT

<213> Psidium Guajava (guava)

<400> 13

Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln

1

5

10

<210> 14

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 14

Asn Phe Ala Met Asp Ile Leu

1

5

<210> 15

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 15

Phe Leu Phe Asn Phe Leu Ser

1

5

<210> 16

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

206070" T6624007

<223> Description of artificial sequence:  
/note=synthetic construct

<400> 16

gcggatccgg ccatgagcaa catgtcg

27

<210> 17

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:  
/note=synthetic construct

<400> 17

aatgttgatg gtggggagga g

21

<210> 18

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:  
/note=synthetic construct

<400> 18

gcggatccgg ccatgtcgcc ggccat

26

<210> 19

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:  
/note=synthetic construct

206070" T662400T

&lt;400&gt; 19

gcggatccgg ccatgtcgtc cacctac

27

&lt;210&gt; 20

&lt;211&gt; 8

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 20

Thr Tyr Pro Pro Ser Leu Ser Pro

1

5

&lt;210&gt; 21

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 21

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser

1

5

10

&lt;210&gt; 22

&lt;211&gt; 12

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 22

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro

1

5

10

&lt;210&gt; 23

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 23

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg

1

5

10

206070 T562400T



&lt;210&gt; 24

&lt;211&gt; 14

&lt;212&gt; PRT

&lt;213&gt; Psidium Guajava (guava)

&lt;400&gt; 24

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg Pro

1

5

10

&lt;210&gt; 25

&lt;211&gt; 480

&lt;212&gt; PRT

&lt;213&gt; Capsicum annum (green pepper)

&lt;400&gt; 25

Met Ile Pro Ile Met Ser Ser Ala Pro Leu Ser Thr Ala Thr Pro Ile

1

5

10

15

Ser Leu Pro Val Arg Lys Ile Pro Gly Ser Tyr Gly Phe Pro Leu Leu

20

25

30

Gly Pro Leu Trp Asp Arg Leu Asp Tyr Asn Trp Phe Gln Lys Leu Pro

35

40

45

Asp Phe Phe Ser Lys Arg Val Glu Lys Tyr Asn Ser Thr Val Phe Arg

50

55

60

Thr Asn Val Pro Pro Cys Phe Pro Phe Phe Leu Gly Val Asn Pro Asn

65

70

75

80

Val Val Ala Val Leu Asp Val Lys Ser Phe Ala His Leu Phe Asp Met

85

90

95

Glu Ile Val Glu Lys Ala Asn Val Leu Val Gly Asp Phe Met Pro Ser

100

105

110

Val Val Tyr Thr Gly Asp Met Arg Val Cys Ala Tyr Leu Asp Thr Ser

115

120

125

Glu Pro Lys His Thr Gln Ile Lys Asn Phe Ser Leu Asp Ile Leu Lys

130

135

140

Arg Ser Ser Lys Thr Trp Val Pro Thr Leu Val Lys Glu Leu Asp Thr

145

150

155

160

Leu Phe Gly Thr Phe Glu Ser Asp Leu Ser Lys Ser Lys Ser Ala Ser

165

170

175

"T662400F"

Leu Leu Pro Ala Leu Gln Lys Phe Leu Phe Asn Phe Phe Ser Leu Thr  
 180 185 190  
 Phe Leu Gly Ala Asp Pro Ser Ala Ser Pro Glu Ile Ala Asn Ser Gly  
 195 200 205  
 Phe Ala Tyr Leu Asp Ala Trp Leu Ala Ile Gln Leu Ala Pro Thr Val  
 210 215 220  
 Ser Ile Gly Val Leu Gln Pro Leu Glu Glu Ile Phe Val His Ser Phe  
 225 230 235 240  
 Ser Tyr Pro Tyr Phe Leu Val Arg Gly Gly Tyr Glu Lys Leu Ile Lys  
 245 250 255  
 Phe Val Lys Ser Glu Ala Lys Glu Val Leu Thr Arg Ala Gln Thr Asp  
 260 265 270  
 Phe Gln Leu Thr Glu Gln Glu Ala Ile His Asn Leu Leu Phe Ile Leu  
 275 280 285  
 Gly Phe Asn Ala Phe Gly Gly Phe Thr Ile Phe Leu Pro Thr Leu Leu  
 290 295 300  
 Gly Asn Leu Gly Asp Glu Lys Asn Ala Glu Met Gln Glu Lys Leu Arg  
 305 310 315 320  
 Lys Glu Val Arg Glu Lys Val Gly Thr Asn Gln Glu Asn Leu Ser Phe  
 325 330 335  
 Glu Ser Val Lys Glu Met Glu Leu Val Gln Ser Phe Val Tyr Glu Ser  
 340 345 350  
 Leu Arg Leu Ser Pro Pro Val Pro Ser Gln Tyr Ala Arg Ala Arg Lys  
 355 360 365  
 Asp Phe Met Leu Ser Ser His Asp Ser Val Tyr Glu Ile Lys Lys Gly  
 370 375 380  
 Glu Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Lys Asp Pro Lys Val  
 385 390 395 400  
 Phe Asp Glu Pro Glu Lys Phe Met Leu Glu Arg Phe Thr Lys Glu Lys  
 405 410 415  
 Gly Lys Glu Leu Leu Asn Tyr Leu Phe Trp Ser Asn Gly Pro Gln Thr  
 420 425 430  
 Gly Ser Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Ala Val  
 435 440 445  
 Thr Leu Thr Ala Ser Leu Ile Val Ala Tyr Ile Phe Gln Lys Tyr Asp  
 450 455 460  
 Ser Val Ser Phe Ser Ser Gly Ser Leu Thr Ser Val Lys Lys Ala Cys  
 465 470 475 480

10042991.010902  
 206070.7662007

&lt;210&gt; 26

&lt;211&gt; 483

&lt;212&gt; PRT

&lt;213&gt; Musa sp. (banana)

&lt;400&gt; 26

Met	Ala	Met	Met	Trp	Ser	Ser	Ala	Ser	Ala	Thr	Ala	Val	Thr	Thr	Leu
1				5					10					15	
Pro	Thr	Arg	Pro	Ile	Pro	Gly	Ser	Tyr	Gly	Pro	Pro	Leu	Val	Gly	Pro
			20					25					30		
Leu	Lys	Asp	Arg	Leu	Asp	Tyr	Phe	Thr	Phe	Gln	Gly	Pro	Glu	Thr	Phe
		35					40					45			
Phe	Arg	Ser	Arg	Met	Ala	Thr	His	Lys	Ser	Thr	Val	Phe	Arg	Thr	Asn
	50					55					60				
Met	Pro	Pro	Thr	Phe	Pro	Phe	Phe	Val	Gly	Val	Asp	Pro	Arg	Val	Val
65					70					75				80	
Thr	Val	Leu	Asp	Cys	Thr	Ser	Phe	Ser	Ala	Leu	Phe	Asp	Leu	Glu	Val
				85					90					95	
Val	Glu	Lys	Lys	Asn	Ile	Leu	Ile	Gly	Asp	Tyr	Met	Pro	Ser	Leu	Ser
			100					105					110		
Phe	Thr	Gly	Asp	Thr	Arg	Val	Val	Val	Tyr	Leu	Asp	Pro	Ser	Glu	Pro
	115					120						125			
Asp	His	Ala	Arg	Val	Lys	Ser	Phe	Cys	Leu	Glu	Leu	Leu	Arg	Arg	Gly
	130					135						140			
Ala	Lys	Thr	Trp	Val	Ser	Ser	Phe	Leu	Ser	Asn	Leu	Asp	Val	Met	Leu
145					150					155				160	
Ala	Thr	Ile	Glu	Gln	Gly	Ile	Ala	Lys	Asp	Gly	Ser	Ala	Gly	Leu	Phe
				165					170					175	
Gly	Pro	Leu	Gln	Lys	Cys	Ile	Phe	Ala	Phe	Leu	Cys	Lys	Ser	Ile	Ile
			180					185					190		
Gly	Ala	Asp	Pro	Ser	Val	Ser	Pro	Asp	Val	Gly	Glu	Asn	Gly	Phe	Val
	195						200						205		
Met	Leu	Asp	Lys	Trp	Leu	Ala	Leu	Gln	Leu	Leu	Pro	Thr	Val	Lys	Val
	210					215					220				
Gly	Ala	Ile	Pro	Gln	Pro	Leu	Glu	Glu	Ile	Leu	Leu	His	Ser	Phe	Pro
225					230					235				240	
Leu	Pro	Phe	Phe	Leu	Val	Ser	Arg	Asp	Tyr	Arg	Lys	Leu	Tyr	Glu	Phe
				245						250				255	

206070" T662400T

Val Glu Lys Gln Gly Gln Glu Val Val Arg Arg Ala Glu Thr Glu His  
 260 265 270  
 Gly Leu Ser Lys His Asp Ala Ile Asn Asn Ile Leu Phe Val Leu Gly  
 275 280 285  
 Phe Asn Ala Phe Gly Gly Phe Ser Val Phe Phe Pro Thr Leu Leu Thr  
 290 295 300  
 Thr Ile Gly Arg Asp Lys Thr Gly Leu Arg Glu Lys Leu Lys Asp Glu  
 305 310 315 320  
 Val Arg Arg Val Met Lys Ser Arg Gly Glu Lys Arg Pro Ser Phe Glu  
 325 330 335  
 Thr Val Arg Glu Met Glu Leu Val Arg Ser Thr Val Tyr Glu Val Leu  
 340 345 350  
 Arg Leu Asn Pro Pro Val Pro Leu Gln Tyr Gly Arg Ala Arg Thr Asp  
 355 360 365  
 Phe Thr Leu Asn Ser His Asp Ala Ala Phe Lys Val Glu Lys Gly Glu  
 370 375 380  
 Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Arg Asp Pro Ala Val Phe  
 385 390 395 400  
 Asp Asp Pro Glu Thr Phe Ala Pro Glu Arg Phe Met Gly Ser Gly Lys  
 405 410 415  
 Glu Leu Leu Lys Tyr Val Phe Trp Ser Asn Gly Pro Glu Thr Gly Thr  
 420 425 430  
 Pro Thr Pro Ala Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val Val Glu  
 435 440 445  
 Thr Ala Cys Leu Leu Met Ala Glu Ile Phe Tyr Arg Tyr Asp Glu Phe  
 450 455 460  
 Val Cys Ala Asp Asp Ala Ile Ser Val Thr Lys Leu Asp Arg Ala Arg  
 465 470 475 480  
 Glu Trp Glu

&lt;210&gt; 27

&lt;211&gt; 1464

&lt;212&gt; DNA

&lt;213&gt; Psidium Guajava

&lt;400&gt; 27

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 ctgtccccgc cgtcgtcgcc gcggccgacc accctcccgg tgcggacgat cccgggcagc 120

tacgggtggc	ccctcctcgg	cccgatatcg	gaccgcctgg	actacttctg	gttccaaggc	180
ccggagacgt	tcttcaggaa	gaggatcgag	aagtacaaga	gcaccgtggt	ccgcgcgaac	240
gtgcctccgt	gcttcccctt	cttctcgaac	gtgaagccta	acgtcgtggt	cgctcctcgat	300
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ggcgacttca	tgccgagcgt	gaagtacacc	gggaacatcc	gggtctgcgc	ttacctcgac	420
acttccgagc	ctcaacacgc	tcaggtgaag	aactttgcga	tggacatact	gaagaggagc	480
tccaaagtgt	gggagagcga	agtgatctcg	aacttggaca	ccatgtggga	caccatcgag	540
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gaaagggcga	aggccgagtt	cggattgaca	caccaggagg	ccatccacaa	cttgctgttc	900
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gagacgctgc	ggctcaaccc	gccggtcccg	ttccaatacg	ctcgagcccg	gaaggacttc	1140
cagctcaagt	cccacgactc	tgtctttgat	gtcaagaaag	gcgagctgct	atgcgggtat	1200
cagaaggtgg	tgatgacaga	cccgaaaagt	ttcgacgaac	cggagagctt	caactcggac	1260
cggttcgtcc	aaaacagcga	gctactggat	tacctgtact	ggtccaacgg	gccgcagacc	1320
ggaacgccga	ccgagtcgaa	caagcagtgc	gcggctaagg	actacgtcac	cctcaccgct	1380
tgtctcttcg	ttgcctacat	gtttcgacgg	tacaattccg	tcagaggaag	ctcgagctcg	1440
atcacagccg	ttgaaaaggc	caac				1464

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